

SUPPOSRT FOR THE AMENDMENT

Claims 1-14 are pending.

Claims 4, 5, and 7 have been amended.

Claims 8-14 have been added.

Support for claim 8, is found at pages 3-4; for claim 9, at page 5; for claim 10, at pages 5-6; for claim 11, at pages 7-8; for claims 12-13, at pages 9-10; and for claim 14, at page 14.

Support for the amendment to page 10 of the specification is explicit to the polymerization of two allyl groups which would yield a structure containing only six carbons as presently depicted.

No new matter is believed to have been added.

Applicants addressed the objection of claims 4, 5, and 7 by removing multiple dependency. Applicants submit that claims 4, 5, and 7 are now in condition for examination.

REQUEST FOR RECONSIDERATION

Oxidative bleaching or dyeing agents can damage hair. For example, upon washing, the treated hair tangles, lose color and luster and have poor manageability (see the specification, pages 1-2). In order to deal with this problem, the addition of additives having conditioning and protective properties (e.g., amino-modified silicon oils, amino-containing polyorganosilioxane, highly polymerized silicones) has been reported (pages 1-2). However, in the bleaching or dyeing, the conditioning agents are often washed away by water and a shampoo after the treatment and the conditioning action of the additives is lost from the treated hair. The amount of additive agents remained on the hair can be very small and often does not bring a satisfactory effect.

The inventors have found that the described problems can be overcome by using an amino-modified silicone, a highly polymerized silicone and a cationic polymer in combination with a bleach or dye composition (page 3).

Claims 1 and 3 are rejected under 35 U.S.C. 102(e) as being anticipated by Dias, US 6,540,791. Claim 2 is rejected under 35 U.S.C. 103(a) over Dias. The rejections are respectfully traversed.

The claimed hair bleach or dye composition comprises an amino-modified silicone, a highly polymerized silicone having a number-average degree of polymerization of 1000 or greater, a cationic polymer, an oxidizing agent and an alkali agent.

Dias does not describe the specific composition claimed in this application comprising an amino-modified silicone, a highly polymerized silicone, and a cationic polymer. Instead, Dias discloses a generic hair bleaching composition comprising various components so as it is necessary to select portions of the teaching within the reference and combine them to arrive at the specifically claimed composition. In other words, Dias does not sufficiently limit or well delineate the claimed composition so as one skilled in the art is able to "at once envisage" the specific claimed composition from the generic disclosure of Dias. "One may look to the preferred embodiments to determine which compounds can be anticipated." MPEP § 2131.02.

Specifically, Dias describes a bleaching composition comprising an oxidizing agent, an alkalizing agent, a stabilizer, and optionally, a surfactant, catalyst, thickener, or a conditioner (abstract). Thus, components such as conditioning agents (e.g., amino-modified silicones and highly polymerized silicones) and thickeners (e.g., cationic polymers) are not a necessary part of the Dias bleaching composition. In fact, the compositions described in the examples do not comprise, for example, highly polymerized silicones (table at col. 49-52). Thus, Dias does not anticipate the claimed dye composition.

Dias does not make the claimed composition obvious. Dias is concerned with discovering a hair bleaching solution having a longer stable shelf-life and providing quality lightening (col. 2, lines 25-27, col. 3, lines 25-38). Dias discloses that incorporating oxidizing agents with a buffering system comprising borates and/or alkalizing agents and stabilizers provides the shelf-life and desired bleaching effect (col. 3, lines 25-38).

The claimed composition comprising an amino-modified silicone, a highly polymerized silicone, a cationic polymer, an oxidizing agent and an alkali agent makes hair flexible and improves hair setting properties (page 2 of this specification). In addition, a highly polymerized silicone prevents hair from damaging and improves “feel of hair” because a conditioning agent is not lost from the hair (page 2). Thus, the Dias and claimed compositions serve a different purpose and comprise different components.

One would not have been motivated to modify the Dias composition to arrive at the claimed bleach or dye because the Dias composition achieves a different goal that requires the incorporation of different components.

Notwithstanding the differences discussed above, the references of Wolff, WO 02/087515 and US 2004/0133996 (submitted herewith), disclose a similar dyeing composition illustrating the combination of amino-modified silicone, cationic polymer, oxidizing agent and alkali agent but in the absence of the highly polymerized silicone. The Wolf bleaching or dyeing composition comprises four components of the claimed composition (i.e., an amino-modified silicone, a cationic polymer, oxidizing agent and alkali agent), while the Dias composition comprises only three required components, i.e., an oxidizing agent, an alkalizing agent and a stabilizer. Thus, the Wolff dyeing composition is closer to the claimed invention than the Dias composition as the examples illustrate four of the claimed elements, while Dias only illustrates three. Also, Wolff relates to a dyeing composition to improve the feel, wet combability and luster of hair; the composition has good

adhesion to the hair and thickening properties ([0014 and [0015]). However, Wolff is silent about good property and dyeing durability which the dyeing composition of the invention has (page 3, first paragraph of this specification).

Applicants submitted herewith a Declaration by Mr. Hajime Miyabe, a named inventor, demonstrating that a combination of an amino-modified silicone and a highly polymerized silicone provides superior color intensity and durability compared to a composition comprising only an amino-modified silicone.

The first parts and the second part as shown in Tables 1 and 2 were prepared by conventional methods.

Evaluation for dyeing property

The respective first parts and the second part were mixed, each mass ratio of which is 1:1, to obtain hair dye compositions. Each of the hair dye compositions was applied to each bundle of 1 g of the goat hair damaged by bleaching at a composition-hair ratio =1:1 by mass. The bundle was allowed for stand in a thermostat set at 30°C for 20 minutes, and it was rinsed with water, shampooed, subjected to conditioning treatment, and dried. Color difference ΔE_1 of each bundle before and after hair dye treatment was measured with a color-difference meter (CR-400, from Konica Minolta Holdings, Inc.). The results are shown in Table 3. As the value of ΔE_1 is greater, the dying property becomes improved.

Evaluation for color fastness against shampoo

Next, the above each bundle was immersed into each aqueous 0.5 mass% of sodium POE (2) laurylether sulfate solution at a solution-hair ratio of 1:10 by mass. The bundle was placed in a thermostat at 30°C for 30 minutes while shaking it 60 times per minute. And then, it was rinsed with warm water, subjected to conditioning treatment, and dried. Color difference ΔE_2 of each bundle before and after shampoo treatment was measured with the

color-difference meter. The results are shown in Table 3. As the value of ΔE_2 is smaller, the color fastness against shampoo becomes improved.

Table 3

	Present invention	Comparative examples
First part	First part a	First part b
Second part	Second part a	Second part a
Dyeing property ΔE_1	63.7	61.1
Color fastness against shampoo ΔE_2	3.0	5.5

Table 1

	(mass%)	
First part	First part a	First part b
Amino-modified silicone (amino equivalent: 1800 g/mol)	1.1	1.1
Highly polymerized methylpolysiloxane (number-average degree of polymerization: 2,700)	1.3	0
Dimethylpolysiloxane (number-average degree of polymerization: 550)	3.6	4.9
Dimethyldiallylammonium chloride · acrylic acid copolymer solution *1	2.0	2.0
Dimethyldiallylammonium chloride · acrylamide copolymer solution *2	2.0	2.0
Toluen-2,5-diamine	0.24	0.24
<i>p</i> -Aminophenol	0.74	0.74
<i>o</i> -Aminophenol	0.07	0.07
<i>m</i> -Aminophenol	0.18	0.18
<i>p</i> -Amino- <i>o</i> -cresol	0.10	0.10
Resorcin	0.28	0.28
Tetrasodium edetate dihydrate	0.2	0.2
Anhydrous sodium sulfite	0.5	0.5
Ascorbic acid	0.5	0.5
Propylene glycol	6.0	6.0
Cetanol	7.0	7.0
Polyoxyethylene (40) cetyl ether	2.0	2.0
Polyoxyethylene (2) cetyl ether	1.0	1.0
Stearyltrimethylammonium chloride	0.84	0.84
Octyldodecanol	1.0	1.0
Liquid paraffin	1.0	1.0
Strong aqueous ammonia (28%)	1.0	1.0
Monoethanolamine	3.5	3.5
Ammonium bicarbonate	0.3	0.3
Perfume	0.3	0.3
Purified water	Balance	Balance

*1: Merquat 280 (40% aqueous solution, from Nalco company)

*2: Merquat 550 (8.5% aqueous solution, from Nalco company)

Table 2	(mass%)
Second part	Second part a
Aqueous hydrogen peroxide (35%)	16.0
8-Quinololin sulfate	0.04
Polyoxyethylene (40) cetyl ether	1.0
Polyoxyethylene (2) cetyl ether	1.0
Cetanol	3.5
Phosphoric acid (75%)	Adjusted to pH 3
Purified water	Balance

Applicants observed performance from the combination as claimed, illustrating improvement over the composition of Wolff which does not comprise the highly polymerized silicone. The results show improvement of the dyeing property and the color fastness against shampoo.

With respect to claim 2, one would not have expected that the Dias composition has the claimed reduced amino equivalent ratio because the claimed composition is different, serves a different purpose, and possesses unexpectedly superior properties. Thus, Dias does not make claim 2 obvious.

Applicants request that the rejections be withdrawn.

A Notice of Allowance for all pending claims is requested.

Respectfully submitted,

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